What is Claimed is:

1. A lance for injecting a fluid over a predefined target area within a system, the lance comprising:

a support block including an inlet side and an outlet side; and

a plurality of channels disposed non-parallel with respect to each other within the support block and extending between the inlet and outlet sides so as to receive fluid at the inlet side and deliver fluid through the support block for injection from the outlet side of the support block over the target area;

wherein at least two channels extend from the inlet side toward the outlet side in a direction away from a central axis of the support block, the central axis intersecting the outlet side.

2. The lance of claim 1, wherein at least two channels have different cross-sectional dimensions.

3. The lance of claim 1, wherein the target area includes a plurality of consecutively aligned sectors, and the channels are oriented within the support block such that a central axis of a fluid stream injected from each channel over the target area is centered between longitudinal boundaries defined by a respective sector.

4. The lance of claim 1, wherein the channels are suitably dimensioned to facilitate the flow of fluid through each channel such that the ratio of mass flow rate of fluid through each channel satisfies the following equation:

$$m_i = (A_i/A_{tot}) * m_{tot};$$

wherein m_i is the mass flow rate through each channel;

A_i is the area of the sector for a respective channel;

A_{tot} is the target area; and

m_{tot} is the sum of mass flow rates for each channel.

5. A boiler system comprising:

a boiler with an enclosed volume and a target area disposed within the enclosed volume; and

a lance comprising:

a support block including an inlet side and an outlet side; and

a plurality of channels disposed non-parallel with respect to each other within the support block and extending between the inlet and outlet sides so as to receive fluid at the inlet side and deliver fluid through the support block for injection from the outlet side of the support block over the target area;

wherein at least two channels extend from the inlet side toward the outlet side in a direction away from a central axis of the support block, the central axis intersecting the outlet side.

6. The boiler system of claim 5, further comprising:

a fuel inlet to facilitate injection of a fuel stream into the boiler volume that intersects the target area.

7. The boiler system of claim 5, wherein at least two channels have different cross-sectional dimensions.

8. The boiler system of claim 5, wherein the target area includes a plurality of consecutively aligned sectors, and the channels are oriented within the support block such that a central axis of a fluid stream injected from each channel over the target area is centered between longitudinal boundaries defined by a respective sector.

9. The boiler system of claim 5, wherein the channels are suitably dimensioned to facilitate the flow of fluid through each channel such that the ratio of mass flow rate of fluid through each channel satisfies the following equation:

$$m_i = (A_i/A_{tot}) * m_{tot};$$

wherein m_i is the mass flow rate through each channel;

A_i is the area of the sector for a respective channel;

A_{tot} is the target area; and

m_{tot} is the sum of mass flow rates for each channel.

10. The boiler system of claim 5, further comprising a plurality of target areas and a plurality of lances, wherein each lance is associated with a corresponding target area.

11. A method of injecting a fluid into an enclosed volume including a target area, the method comprising:

(a) partitioning the target area into a plurality of consecutively aligned sectors;

(b) providing a lance to deliver fluid over the target area, the lance including a support block including an inlet side and an outlet side, and a plurality of injection channels disposed non-parallel to each other within the support block and extending between the inlet and outlet sides, wherein each injection channel is oriented to deliver a fluid stream into a respective sector.

12. The method of claim 11, at least two channels have different cross-sectional dimensions.

13. The method of claim 11, wherein at least two channels extend from the inlet side toward the outlet side in a direction away from a central axis of the support block, the central axis intersecting the outlet side.

14. The method of claim 11, wherein the channels are oriented within the support block such that a central axis of a fluid stream injected from each channel over the target area is centered between longitudinal boundaries defined by a respective sector.

15. The method of claim 11, further comprising:

(c) providing suitable dimensions for the channels to facilitate the flow of fluid through each channel such that the ratio of mass flow rate of fluid through each channel satisfies the following equation:

$$m_i = (A_i/A_{tot}) * m_{tot};$$

wherein m_i is the mass flow rate through each channel;

A_i is the area of the sector for a respective channel;

A_{tot} is the target area; and

m_{tot} is the sum of mass flow rates for each channel.

16. The method of claim 11, further comprising:

(c) injecting a fuel stream into the enclosed volume to intersect the target area.

17. The method of claim 11, wherein the enclosed volume is partitioned into a plurality of target areas, and a plurality of lances are provided such that each lance injects fluid over a corresponding target area.